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NOTES ON THREE WESTERN GENERA OF FLIES (DIPTERA, TABANIDAE).*

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The known North American species of *Silvius, Apatolestes,* and **Brennania** (n. n.) all occur west of the Mississippi River, and consequently augmentation has been more recent in these than in some of the other better known Nearctic genera. While different species of the first have been found on several continents, those of the other two are not known outside the United States or Northern Mexico.

Types in the following discussion are in the collection of the author except as otherwise indicated.

Silvius Meigen, 1820.

The genus *Silvius,* as restricted by Enderlein (1925) would include without question only *S. gigantulus* Loew of the several Nearctic species now accepted as congeneric. Generic separation of related groups on the basis of the presence or absence of the wing spur is not substantiated by our species since intergradation to complete absence occurs within a single species, and Enderlein admits occasional absence of these spurs in even the type species, *S. vituli* (Fabr.) of Europe. Ferguson (1926) is also of the opinion Enderlein places undue weight on this character in connection with related Australian species. In *pollinosus* Will., *notatus* (Big.) and *sayi* Bren., sharp angulation of R_4 usually occurs, with or without attached short spurs. On the other hand, I have seen but one male in a long series of *quadrivittatus* (Say) with such angulation

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and none with spurs, which would run this fallaciously to the Chilean genus *Veprius* Rond. as interpreted by Enderlein, a genus long, but nevertheless wrongly, considered as synonymic with *Silvius*.

I have both sexes of *Veprius presbiter* Rond. from Chile through kindness of Mr. A. Fraga Guichard, and consider Enderlein and Kröber as correct in separating *Veprius* from *Silvius,* as the respective genotypes, *V. presbiter* and *S. vituli,* are not congeneric. The head of the former is quite *Tabanus*-like in respect to the short basal antennal segments, wide plate of the flagellum, hairy, swollen subcalli, and in the female, the narrow front with semi-linear callosity (see also Kröber, 1930, fig. 1). The more robust blackish bodies, banded rather than spotted eyes, and non-attenuated though slender palpi also differ from *Silvius*.

The unusual lengths of antennal segments, and non-appendiculate anal cell apically in *S. philipi* Pechuman leave more doubt as to actual generic status of this recently described Nearctic species but examination of other characters and gross appearance leave little question of its affinities with other grayish bodied species of *Silvius* found in Western North America. The relative lengths of the antennal segments are very suggestive of some *Chrysops* species with incrassate antennae, particularly *C. virgulata* Bell., and the species thus forms an intergrade between Enderlein's tribes (1924, p. 305) Chrysopini and Silviini, further lessening the value, questioned by some, of trying to separate *Silvius* and *Chrysops* in higher systematic rank than the genus. Nevertheless, the general *Silvius*-like facies of *philipi* would warrant no more than subgeneric treatment for the present. Because of its interesting taxonomic position the subgenus **Zeuximyia** nov. (Greek, "joining fly") is proposed with *Silvius philipi* Pechuman as monotype species. The subgenus is differentiated from *Silvius* s. str. by the elongated scape and pedicel, the former somewhat incrassate and longer than the flagellum, and a little less than twice the length of the pedicel (see Pechuman, 1938, fig. B). The species would thus still key to *Silvius* in Hine's and Brennan's keys to Nearctic genera. Until more specimens than the holotype are available, the significance of the marginal closure of the anal cell cannot be evaluated.

Ricardo (1900) placed *Mesomyia* Macq. 1859, *Ectenopsis* Macq. 1838 and *Veprius* Rond. 1863 as synonyms of *Silvius* Meig. 1820. The second, as Ferguson (1926) pointed out, is excluded, however, because of the 8-segmented flagellum, but he adds to the synonymy, *Lilea* Walk. 1850 which Enderlein credits with the same character.

Ferguson also states that *Pseudotabanus* Ric. and *Pseudopangonia* Ric. are doubtfully distinct, while Brennan (1935) includes *Perisilvius* End. in the synonymy.

S. notatus (Bigot) 1892. A specimen of *S. laticallus* Bren. compared with the type in the British Museum of Mr. H. Oldroyd shows agreement with this and not as heretofore placed with *S. quadrivittatus* (Say). Transfer of Bigot's species to this genus causes unfortunate priority for the Australian *Silvius notatus* Ricardo (1915), a species validated by Taylor (1919); the name **Silvius abrus** n. n. (Gr., delicate) is here proposed to replace it.

Apatolestes Williston, 1885

As material accumulates of this predominantly southwestern genus, it becomes increasingly obvious that an extensive and thorough revision ultimately will be needed to satisfactorily place problematic specimens that continue to appear. The present notes are still admittedly preliminary, but are intended to provide information that will supplement Brennan's treatment pending availability of sufficient material for adequate conception of specific limits and variation.

The species of *Apatolestes* form a compact and easily recognized group. Originally monotypic with *A. comastes* Williston, 1885, the genus was enlarged by Townsend (1897), who added with question a Lower California species, *A.* (?) *eiseni,* the unique type of which was destroyed in the 1906 San Francisco earthquake. According to later manuscript notes and figures of the original describer of *eiseni* after study of additional material of both sexes from the type area, and of J. M. Aldrich regarding the type which he saw in 1905 (all from the files of the late J. S. Hine), this species cannot be an *Apatolestes,* having only 4 annuli and an enlarged basal "plate" in the antennal flagellum.

In 1925, Enderlein included *Goniops chrysocoma* (Ald.), *Pangonia tranquilla* O. S., *Silvius isabellinus* Wied. [= ? *Stonemyia rasa* (Lw.)], and *Diatomineura dives* Will. [= *S. californica* (Bigot)]. None of these, however, can be considered as belonging here, including the doubtful, but probably eastern *S. isabellinus.*

Considering the not uncommon occurrence of some species in the Southwest, and the interspecific diversity, it is remarkable that it was 1935 before undoubted species additional to *comastes* were noticed. In that year, Brennan added 4 new species and a variety, all from California, and transferred the hairy-eyed *Pangonia hera* O. S. to the subgenus *Comops* (preoccupied) which he erected.

The writer here adds 4 more from the Southwest and calls attention to the probable occurrence of still other forms that are likely to be recognized with augmentation of materials. While there is pronounced homogeneity in generic limits, the variation displayed among even limited series, particularly in size, indicates either wide specific latitude in certain instances, or the presence of still unrecognized forms which cannot be defined in the absence of many more specimens of both sexes. Confidence in determination of males in particular, will require plenty of females for associational studies, as the frontal characters of the latter are the most satisfactory for specific differentiation at present. All species have females with fronts that are strongly convergent above, grooved palpi, and in both sexes short, robust proboscides with large labella, the subepaulets bare, the tegulae with a few white hairs.

A. comastes Will. In a considerable series of specimens in various collections from California and Arizona, intergradation in a wide variation of tinctorial characters and in size suggests (1) that this may be composite beyond the limits of subsp. *willistoni* Bren., and (2) that the latter is not as sharply defined as originally indicated. Typically, as given by Brennan, the size is between 8 and 11 mm. A form otherwise indistinguishable, however, has been seen in both sexes of 12 to 14 mm. in length, including a female taken from an auto radiator by Dr. W. L. Jellison in Hamilton, Montana, in apparent fresh condition; as the car concerned had not been out of the State, this and a pair from Spokane, Washington, extend the distribution considerably northward. In some of these larger forms the femora are more brown than black and the clouds on the cross-veins more accentuated, but some variation in these respects is also seen in the smaller form. The antennal flagellum is usually entirely black, as indicated in the original description (unless the flagellums of the types have faded, Brennan's characterization as "yellowish brown . . . except the black apex . . ." is not understood) and the darkening of the integument or vestiture of the palpi of the fore coxae and of the costal cell is extremely variable. In some, the bodies are predominantly grayish, in others blackish. No structural characters to support separation have been found. The point of separation of *willistoni* is therefore difficult to ascertain while Brennan's typical form with entirely white haired palpi and completely hyaline costal cell is seldom seen.

The male of neither form has ever been described. Because of black flagellums, darkened costal cells, and palpi with a few black hairs on either segment of the latter among abundant whitish hair,

a series of both sexes from Garces, Arizona (no date), in the Museum of Comparative Zoology, relate to subspecies *willistoni* Bren., and a male is here described as allotype, provided through courtesy of Mr. Nathan Banks. It is entirely possible that no males will be found within the species more pallid than this for association with the typical form, although a male from Baker, Oregon, has brownish femora, a female taken at the same time having typically blackish femora.

Length, 10 mm. Eyes ostensibly bare, upper area of enlarged facets well differentiated, brown, about $\frac{2}{3}$ of total eye area; the 3 ocelli on a prominent, dark tubercle covered with black hairs at vertex; frontal triangle gray pollinose. First 2 antennal segments gray, covered with mostly pale hairs, third black, a suggestion of brown at the extreme base. Palpi brown, covered with abundant pale and a very few black hairs, the first segment subshiny, swollen, the second rather elongate, a little shorter than the stylets in length, rather blunt at the apex, but not as truncated as in *parkeri*. Lines on dorsum of thorax not as plain as in the females, the pile longer and brownish but pale around the thoracic margins, including the blackish scutellum. Femora blackish, the tibiae and tarsi brown. Costal cell of wings faintly tinted; clouds imperceptible. Abdomen as in the females but more hairy, the pale incisures more pronounced.

A. ater. In 2 smaller females which apparently belong here, there are a few whitish hairs on some of the abdominal incisures.

A. hinei Brennan. A female from Monterey, California, agrees well with most characters of a paratype obtained through courtesy of Dr. R. H. Beamer, but the pile of the face, chest, fore-coxae, hind femora and abdominal venter is predominantly pale. The third antennal segment of this specimen is entirely black to the base. A male from Riverside County also has a totally black third antennal segment and the enlarged eye facets occupy not more than $\frac{2}{3}$ the total eye area.

A pair from Dulzura and Monterey also agree, but are so small (10 mm.) they appear casually to be a different species.

A. affinis n. sp. Some affinities with the above mentioned, Monterey *hinei* female in having an admixture of pale and blackish hairs on the face, thorax, femora, fore-coxae and venter. General color light brownish, including a somewhat elliptical, bare frontal area,

the wings subhyaline with faint clouds about the short spur and fork, and outer cross-veins.

Holotype ♀, 10.5 mm. Eyes ostensibly bare, unbanded, with iridescent greenish hues even in the dried state. Front convergent above, basal width to height as 3: 5, buff pollinose around a sharply outlined, broad, brown, finely wrinkled bare area shaped like an upward-directed spearhead, with the point truncated by the anterior ocellus, 2 marginal notches on each side not quite touching the eye margins about a quarter distant from the base, and grading into an acute point at the top of the subcallus; latter buff pollinose. Cheeks also buff pollinose along eye margins, face gray pollinose, both covered with fine white and black pile grading to entirely white behind. First 2 antennal segments yellowish with black hairs above, pallid below, the flagellum entirely contrasting black. Palpi yellowish, short, about $\frac{2}{3}$ the length of the proboscis, the second segments very swollen basally, short, the length a little less than twice the basal thickness, with deep antero-basal sulci, and covered with short black hair; basal segment with blackish hair grading into whitish proximally. Tongue dark, labella large.

Thorax brown with rather narrow gray stripes and short appressed yellow and black hairs on the dorsum, pale around the margins including the scutellum. Pleura, chest and fore-coxae grayish-buff pollinose with intermixed white and black hair. Legs yellowish, concolorous, with mixed black and white hairs, predominantly dark on the tibiae and white on the 2 hind pairs of femora.

Abdomen light brown with narrow, pallid incisures, hair of first segment, venter, and dorsal incisures predominantly pale yellowish, otherwise the second and following tergites with short black hairs; some sparse black hairs also caudad of the second sternite.

Loreto, Baja Calif., May 20, 1921. In the California Academy of Sciences, No. 4807. A less well preserved paratype ♀ of same data in the collection of the author.

The combination of short, thick palpi, peculiar shaped, bare area of the front, brownish body and subhyaline wings are distinctive. The mixed black and pale hairs of the face, thorax and fore-coxae make it impossible to run in Brennan's (1935) key.

Apatolestes sp. "A." A female labelled "Geo. H. Field, San

Diego, Calif." without date, resembles *affinis,* but even in a teneral condition appears too dark. The abdomen and appendages are shrunken. A large spearhead-like median callus on the front, and the thorax and scutellum appear blackish; the femora are too teneral to be sure of their basic color. Shadows on the outer cross-veins and fork of the teneral wings suggest clouds, but definite tinting, as in *affinis,* cannot be decided in the absence of better specimens.

Apatolestes aitkeni n. sp. Small blackish bodied flies, with golden yellow hairs on the abdominal incisures, and lightly fumose wings, the costal cells brown. Eyes ostensibly bare (minute scattered hairs visible in certain lights).

Holotype ♀, 11 mm. Front with basal width to height as 2:3; predominantly shining black below the ocelli, and swollen above the subcallus, beset with yellow hairs above the swelling; yellow and brown pollinose either side the ocelligerous tubercle, the latter sparsely pollinose; the pale yellow pollinosity of the subcallus encroaching half way across the swelling above as a broad, median, truncated, subquadrangular extension about one-third the width of the callosity, and on either side as attenuated prolongations along the eye margin, the margin in between these extensions markedly rounded in consequence. Face, cheeks, and occiput pale grayish yellow pollinose and pilose, with some black hairs intermixed on the cheeks; latter not markedly swollen. First two segments of antennae gray pollinose with yellow and black hairs, not produced above, the first about equal in length and thickness, the second half as long, the flagellum black, attenuated, with 8 annuli. Palpi about $\frac{2}{3}$ the length of the black tongue, deep yellowish to blackish beneath the first segment, with black and some pale hairs on both segments, the second basally swollen, and the usual dorsal groove. Thorax blackish, sparsely dusted with gray pollen, the usual dorsal gray lines rather faint, covered with appressed golden yellow hairs and scattering erect black ones; pleural hairs pallid with some black. Scutellum and its marginal hairs black intermixed with a few pale yellow ones on the disc. Spurs on R_4 short, the fumosity a little more intense on the cross-veins. Halteres and legs deep brown, the femora and forelegs apically almost blackish; coxae, mid and hind femora with long yellow hairs, a few black ones on the fore coxae. Abdomen black with black hairs basally on each segment, the incisures above and below with prominent bands

of golden yellow hairs, widest on the basal 4 segments, narrow on the last 3.

Allotype ♂, 10 mm. Darker than the ♀, and more subshiny. Head with enlarged facets occupying almost ¾ the total eye area. Ocelligerous tubercle black, prominent, with black hairs behind. Hairs of occiput and upper face pallid grading to blackish below, those on the basal antennal segments and palpi, deep black. First palpal segment very swollen, shining black, the apical one dull black, short, and diagonally truncated at the tip. Thorax and vestiture entirely black except for a few fine pale hairs on the anterior dorsum, the lines hardly discernible. Wings as in the female. Legs black except the anterior tibiae basally and the mid and hind tibiae and tarsi, brown; vestiture black except for a few yellow hairs dorsally on the 2 hind pairs of femora. Abdomen with golden hairs less extensive on the incisures, none at all except laterally on the first segment, very narrow on the remainder dorsally, more prominent ventrally, the incisures also with a narrow underlying gray pollinosity.

Both specimens taken in Baboquivari Mts., Ariz., May 8, 1938, by F. H. Parker; in the collection of The California Academy of Sciences (Nos. 5148–9) through courtesy of Dr. T. H. G. Aitken, for whom they are named.

In appearance the species looks much like a very dark variety of *comastes* with golden haired abdominal bands and tinted wings.

Apatolestes colei n. sp. A species as large as any known in the genus, almost uniformly pure gray in gross appearance, except for distinct darker lines on the dorsum of the thorax, and frosty yellowish shades on the sides of the abdomen (broader in the male), venter, and appendages. Third antennal segments and eyes contrasting black, the latter ostensibly bare, without stripes, but with iridescent green and purple hues even in the dried state.

Holotype ♀, 13 mm. Head wider than the thorax, front broadest of the genus, ratio of height above subcallus to basal width as 6:7; buff pollinose and strongly convergent above; a yellowish, vertical, denuded dash mesally one-fifth the width and half the height of the front, pointed below and resting on the subcallus; the three ocelli on a raised, darkened tubercle. Subcallus much narrower than the front at the base, *i.e.,* widely separated from the inner angles of the eyes. Cheeks unusually swollen, creamy, the face below the antennae depressed, gray.

Antennae with first 2 joints pale yellowish, white hirsute, the third contrasting black; the first bluntly swollen dorsally, taller than the second. Apical palpal segment very swollen basally, and short, length less than twice the basal thickness, almost reaching the tip of the proboscis. Vestiture of entire palpi white except for a few, coarse black hairs anteriorly, somewhat obscuring the reduced basal furrow.

Thorax with appressed, pale yellow hairs on the dorsum; a very few inconspicuous, black hairs on the pleura, otherwise white including the coxae and femora; the tibiae with coarse, sparsely scattered, black hairs intermixed with white. Scutellum dark gray pollinose and pilose, some black hairs intermixed on the disc. Legs and wing veins concolorous yellowish, vein R_4 with a long spur basally, no evident cloud at the fork. Halteres with pale stems, cinereous knobs. The indefinite yellowish, lateral shades on all tergites but the first, encroach inwardly along each incisure; the entire venter of the same yellowish shade. Abdominal vestiture pallid, no black hairs present.

Allotype male, 14 mm. Essentially like the holotype except for sexual differences. More hairy, especially on the palpi and thoracic dorsum, the dark lines of the latter more evident; indistinct, sparse black hairs scattered over the thorax and abdomen dorsally, except the incisures, and a few on the pleura and posterior tergites. Palpi not truncated apically, nearly as long as the proboscis, decurved apically. Upper eye facets but little enlarged.

Both from La Quinta, San Bernardino Co., Calif., July 15, 1920, F. R. Cole, through courtesy of the collector, a capable and productive student of the Diptera, for whom the species is cordially named.

In appearance, this is nearest *parkeri* and *similis*. The lack of clouds on the cross-veins, unusually swollen cheeks, wide front with peculiarly isolated subcallus (♀), and elongate palpi (♂) distinguish *colei* from both, and in addition, the dark scutellums from the former and pale yellow legs and lack of abdominal pattern from the latter. The allotype was compared with the types of *Tabanus villosulus* Bigot by Mr. H. Oldroyd, and the holotype with that of *similis* Bren. by Dr. Alan Stone, and declared not in agreement in each case.

A. parkeri n. sp. A pallid, grayish brown species with striped thorax and banded abdomen, yellow scutellum, legs and venter,

and isolated clouds on the outer cross-veins. Palpi of male unusually truncated, and front of female pollinose or irregularly denuded due to wear. Eyes ostensibly bare.

Holotype ♀, 13 mm. Front yellowish pollinose (irregularly worn mesally), little swollen, convergent above, basal width to height as 1 : 2; ocelli prominent on a brown, yellowish-pollinose tubercle at vertex. Subcallus, face and cheeks yellowish pollinose, paler below. Vestiture pale creamy on occiput, face, first 2 antennal segments and palpi, some black hairs intermixed on cheeks. Scape and pedicel yellow, not dorsally produced, flagellum black, attenuated, annuli distinct. Palpi yellowish, 2 or 3 black hairs and a deep dorsobasal furrow on the "knee" of the second segment; this segment almost 3 times longer than thick, and not quite reaching the tip of the short, dark brown tongue; the labella very large, longer than the palpi.

Thorax with 5 gray and 4 brown, very evident stripes, covered with yellowish appressed and a few black hairs, pallid around the margins including the scutellum; latter yellowish, invested like the thorax. Pleura, chest, coxae, femora and tibiae pale yellowish pilose and pollinose. Legs concolorous yellowish, with some darker shades on the femora, a few black hairs apically on the fore and hind tibiae; tarsi brown. Wings hyaline, some vein margins, particularly the outer cross-veins, faintly clouded; base of R_4 appendiculate and with a distinct cloud.

Abdomen hoary, pale brown above, the venter including vestiture yellowish; entire first tergite and the incisures of the others broadly pale yellowish pilose, widening laterally to cross the tergites, and mesally to form a row of easily rubbed triangles, whose apices do not quite cross the respective tergites.

Ehrenberg, Arizona, July 31, 1938, F. H. Parker.

Allotype ♂, 12 mm. Area of enlarged facets not as marked as in some species, occupying about ½ the total eye area; ocelli on a prominent, brown tubercle, covered posteriorly with yellow hairs. Scapes with slight, robust dorsal teeth, and a few coarse black hairs inwardly on the second segments. First palpal segments more swollen than the second which are a little less than twice longer than thick, very short and diagonally truncated apically a few scattering black hairs on each segment, a little shorter in relation to the tongue, than in the

♀. Remainder essentially as in the ♀, the vestiture a little longer, with more black hairs on the tibiae, and thoracic dorsum, and the brown lines of the latter darker.

Same locality and collector as holotype, June 21, 1938.

Paratypes.—2♂, 8♀, same locality and collector, June, 1940; ♂, Blythe, Calif., July 16, 1938, Timberlake, "at light." Many of the Ehrenberg specimens were taken by Mr. Parker at light also. In the collections of the British Museum (N. H.), U. S. National Museum, University of Kansas, California Academy of Sciences, Dr. T. H. G. Aitken, Mr. F. H. Parker, and the author.

Separated from *similis* Bren. by the more yellowish integument including scutellum, predominantly pale pleural hair, more pronounced wing clouds, and in the female the pollinose or irregularly worn fronts, without the mesal "spearhead-like" bare area.

A. similis Bren. A female from Antioch, Calif., July 6th, agrees in size and characters, although rubbed dorsally, but the type locality (Los Angeles) is much farther south. The integument, including the scutellum and streaks on the femora, is dark cinereous; the frontal index is about as 1 : 2, the "denuded midstreak" brown with yellowish shades below, pointed above and below, widened mesally like a spearhead, but not notched nor limited by the divergent sutures below the ocelli as in *affinis* or sp. "A," *i.e.,* rather widely separated from the eye margins by gray pollinosity, which also differentiates it from *parkeri.* Black hairs are prominent on the prescutal lobes and pleura which are mostly pale in *parkeri.* The wings are neither tinted as in *affinis* nor with clouds on the crossveins as in *parkeri,* though suggested. *A. villosulus* (Bigot) may be the male of this.

Apatolestes sp. "B." A male collected on the beach at Davenport, Calif., June 14, 1940, by Dr. M. T. James, appears to belong to an undescribed species, but it seems best to delay naming until the female can also be taken.

This male is 14 mm. in length, the entire body unusually hirsute, white below, blackish above except the margins of the thorax including scutellum and the narrow abdominal incisures. The dorsal integument is subshiny black, the usual thoracic gray lines very narrow. The palpi are elongate and rather pointed as in *colei,* first 2 antennal segments gray with long whitish hairs, the flagellum black. The legs are predominantly yellowish, appearing darker distally due to abrupt cessa-

tion of the white hairs at about the distal fifth of the tibiae; the hind tibiae are unusually adorned with long white hairs, particularly underneath, subequal to those on the femora.

Tabanus villosulus Bigot. This is an *Apatolestes*. Study of the types (2♂, California) in the British Museum inclined Hine (unpublished notes) to the opinion this was the male of *hera,* but the eyes are bare according to Oldroyd, who indicated them to be closer (though doubtfully identical) to *parkeri* with faint clouds on the wing cross-veins, than to *colei,* with males of both of which he compared Bigot's types. However, *villosulus* differs from *parkeri* in the black scutellum and less truncate palpi, and from *colei* in the isolated wing clouds and shorter palpi. The description sounds very like that of *similis* Bren., but its actual identity will have to await more adequate comparative study.

Brennania, nom. nov.

Stone (correspondence) called attention to the preoccupation of *Comops* Brennan (1935) by Aldrich (1934) since the writer raised this name to generic standing (1941). The name *Brennania* is therefore proposed to replace Brennan's *Comops,* with *hera* (O. S.) still monotype species.

Although minute, scattering hairs can be seen on the eyes of most any well preserved *Apatolestes,* the abundantly hairy eyes in both sexes of *Brennania hera* warrants generic rather than subgeneric recognition, as accorded certain tabanine groups, in spite of the close structural similarity of such characters as the fronts of the females.

The typical form has predominantly pale yellowish vestiture. There is also a dark form in which the hairs of the body and appendages are chocolate brown, yellowish only on the inner face, eyes, humeri, pleura (in part) and margins of the scutellum. Although I have not seen intergrades, this form hardly warrants subspecific treatment as it readily keys with the typical form.

The following key is offered as a tentative aid pending accumulation of additional materials to allow adequate treatment by a future reviewer. The section on males in particular, should be used with caution because of their still confusing homogeneity at this time. The types of *villosulus* (Bigot) have not been seen, and their exact status will require further clarification.

Provisional Key to Apatolestes Williston.

1. Eyes densely hairy ..... [*Brennania hera* (O. S.)]
   Eyes bare, or minutely hairy 2
2. Males 13
   Females 3
3. Front basally inflated, shining black or dark brown, pollinose only at the vertex around the ocelli 4
   Front either normally pollinose, or with a bare restricted area, not with a callus-like swelling above the subcallus ... 7
4. The callosity deeply emarginate across the base; body chiefly dull black with golden yellow pile on the thorax, coxae and hind femora, and abdominal incisures . **aitkeni** n. sp.
   The callosity with lower margin sometimes sinuate but not deeply notched by rectangular invasion of pollen from the subcallus 5
5. Body entirely subshining black, the wings smoky . . *ater* Bren.
   Body grayish to dull blackish, only the costal cells sometimes tinted 6
6. Costal cell hyaline; palpi pale haired ..... *comastes* Will.
   Costal cell tinted, palpi usually with some black hairs. subsp. *willistoni* Bren.
7. Scutellum yellowish 8
   Scutellum blackish or cinereous 9
8. Front entirely pollinose when not irregularly worn; flagellum black ..... **parkeri** n. sp.
   Front with an expansive bare area; flagellum mostly yellow. *albipilosus* Bren.
9. Front very wide, height and basal width subequal, a narrow mesal, bare brown streak about $\frac{2}{3}$ its height; cheeks unusually swollen ..... **colei** n. sp.
   Front narrower, about 1 : 2 or 2 : 5, the bare area more expansive 10
10. Body predominantly gray; wings subhyaline; midfrontal bare area widely separated from eye margins (*villosulus?*). *similis* Bren.
    Body predominantly brownish or darker; wings fumose; bare area almost touching eye margins 11
11. Front with large, spearhead-like, sharply defined bare area, pointed above and below 12
    Front with a dull, more expansive bare area . . . *hinei* Bren.
12. Midfrontal callosity, legs and 4 thoracic lines brown. **affinis** n. sp.
    Midfrontal callosity, 4 thoracic lines and (?) femora blackish (teneral San Diego specimen) ..... sp. "A"

13.* Wings hyaline, with or without infuscated costal cells or isolated clouds; at least pleural hairs largely whitish ... 14
Wings smoky, or palpal and pleural hairs black 20
14. Costal cell fumose, distinctly darker than remainder of wing. 15
Costal cell completely hyaline 16
15. Size not over 11 mm.; femora usually dark.
comastes subsp. *willistoni* Bren.
Size over 11 mm.; legs often concolorous brownish.
comastes form?
16. Palpi truncated apically, short and stubby (hairs sparse) . 17
Palpi elongated, more slender (sometimes obscured by long, dense pile) 18
17. Scutellum and venter yellow; wings with pronounced clouds on the outer cross-veins and fork ..... **parkeri** n. sp.
Scutellum and venter cinereous; wings with these clouds faint (except in a possible dark form?) ..... *similis* Bren.
18. Size 14 mm. or over; palpal and facial vestiture dense. ... 19
Size under 14 mm.; these hairs not especially dense.
comastes Will.
19. Tibial vestiture normal; cheeks unusually swollen; dorsum hoary, venter yellow ..... **colei** n. sp.
Hind tibiae "feathered" underneath with long white hairs like the femora; cheeks normal, dorsum subshining black, venter pale gray ..... sp. "B"
20. Abdominal incisures, especially ventrally with golden yellow pile; small species (10 mm.) ..... **aitkeni** n. sp.
Abdomen entirely black or with yellow but not golden hairs; larger species 21
21. Shining black species ..... *ater* Bren.
Dull black species with pale abdominal incisures . . *hinei* Bren.

Note: Transfer of a portion of this paper from a previous manuscript delayed appearance of the description of the subgenus *Zeuximyia* and resulted in its prior use in a key and in association with a specific name (Canad. Ent., 73: 4 and 9, 1941). However, in accord with Article 25 of the Rules applying to names proposed subsequent to 1930, the name dates properly from this article, having no nomenclatorial standing until its genotype was specifically stated. Discovery of additional specimens of both sexes of *Stone-*

* The theoretical ♂ of *albipilosus* should separate out immediately on predominantly yellow flagellum, that of typical *comastes* at 19 on hyaline costal cell, lack of black hairs on palpi and coxae, and possibly brown basal flagellar segments.

myia velutina (Bigot) 1892 [*Corizoneura*], heretofore known only from the unique type in the British Museum, has clarified this doubtful species, though it causes unfortunate synonymy of the recently described *Stonemyia albomacula* Stone, 1940.

Summary.

The generic limits of Nearctic *Silvius* and differentiation from *Veprius* are discussed, and *Zeuximyia* n. subgen. is described for *S. philipi* Pech., monotype. *S. laticallus* Bren. is synonymized with *S. notatus* (Bigot), and *Stonemyia albomacula* Stone with *St. velutina* (Bigot). *S. abrus,* new name, is proposed for the preoccupied *S. notatus* Ric. (not Bigot) of Australia.

Four new species are added to the genus *Apatolestes,* viz., *affinis* (♀) from Lower California, *colei* (♂, ♀) from California, and *aitkeni* (♂, ♀) and *parkeri* (♂, ♀) from Arizona. Comments on variation in other species, particularly the genotype *comastes* Will., generic relation of *Tabanus villosulus* Bigot, and a provisional key to species are included. *Brennania* n. n. is proposed for *Comops* Brennan (not Aldrich) with *hera* (O. S.) as monotype species.

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